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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.             | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------------------|------------------|
| 09/729,279  | 12/05/2000  | Takeshi Yamawaki     | 35C14978                        | 6187             |
| 5514  | 7590        | 05/24/2005           |                                 |                  |
| FITZPATRICK CELLA HARPER & SCINTO<br>30 ROCKEFELLER PLAZA<br>NEW YORK, NY 10112 |             |                      | EXAMINER<br>LEE, SUSAN SHUK YIN |                  |
|   |             |                      | ART UNIT<br>2852                | PAPER NUMBER     |
| DATE MAILED: 05/24/2005   |             |                      |                                 |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/729,279

Applicant(s)

YAMAWAKI ET AL.

Examiner

Susan S. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2005.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16, 18-20, 22-33, 35-45 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 1-16 is/are allowed.  
6) ☒ Claim(s) 18, 19, 22-25, 29-32, 35-38 and 42-45 is/are rejected.  
7) ☒ Claim(s) 20, 26-28, 33 and 39-41 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18, 19, 22-25, 31, 32, 35-38, 44, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endo (Japan, 9-96769) in view of Toyoda (Japan, 11-64759).

Endo discloses a unit having a light source 24 and optical element 71; elements 74 and 75 read on the instant invention's incident optical system; a polygon mirror 28 reads on the instant invention's optical deflector; elements 76 and 77 read on the instant invention's image optical system; and the surface of the image carrier 15 as shown in Fig. 1 reads on the instant invention's "scanned surface". The movement of the light source by move adjusting means 100, 102, 104, and 106 (Fig. 9) in the direction S as shown in Figs. 2, 9, and 10 read on the instant invention's "said laser unit is adapted to be moved in the main scanning direction without changing a direction of an axis of the incident optical system". Note abstract and Figures 1, 2, 9, and 10.

Endo differs from the instant invention by not showing the incident optical system arranged to direct the light beam to strike an optical deflector while maintaining a width of the light beam wider than the width of a deflecting surface of the optical deflector in a main scanning direction.

Toyoda discloses a light scanning optical device where a width of a luminous flux emitted from the lens 2 is formed so as to become wider than the width of deflection surface 4a of polygon mirror or optical deflector 4. This is done so that changes in the width of the luminous flux in accordance to the revolution of the optical deflector 4 can be minimized. Note abstract.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Endo with that of Toyoda so that changes of width of laser beam caused by the revolution of the optical deflector can be minimized as disclosed by Toyoda.

Claims 29/18, 30/18, 29/19, 30/19, 29/22, 30/22, 29/23, 30/23, 29/24, 30/24, 29/25, 30/25, 42/31, 43/31, 42/32, 43/32, 42/35, 43/35, 42/36, 43/36, 42/37, 43/37, 42/38, and 43/38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endo (Japan, 769) as modified by Toyoda (Japan, 759) as applied to claims 18, 19, 22-25, 31, 32, 35-38, 44, and 45 above, and further in view of Kashiwara (5,982,508).

Endo, as modified by Toyoda, differ from the instant invention by not disclosing the image forming apparatus having a developing unit, a transfer unit, a fixing unit; and a controller for converting code data input from an external device into an image signal.

Kashiwara discloses a host computer 502 connected with a printer engine 100 by way of a video controller 200. The host computer 502 processes a document mixed with figures, pictures, characters, tables, and the like by running a document processing program. The processed document information is converted into print information written by a predetermined print language in order to be printed by a laser beam printer

(LBP) 501 using a printer driver program. This print information contains character codes, vector information, picture information, and the like. The converted print information is sent via an interface signal line 503 to a LBP 501. The LBP 501 has a video controller 200 and a printer engine 100. The printer engine 100 performs a series of electrophotography processes including modulating a laser beam with the picture information sequentially supplied from the video controller 200, scanning the modulated laser beam on a photosensitive drum to form a latent image, the latent image is developed by developer 114 to create a toner image; the toner image is transferred onto a recording sheet 101 by a transfer charger 115; and the recording sheet 101 with the transferred toner image is fixed with fixing rollers 108 and 108'. Note column 5, line 54 – column 6, line 14; and column 7, lines 36-45.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to the apparatus of Endo in view of Toyoda with that of Kashiwara so that a latent image that is scanned onto the surface of element 15 can be produced onto a hard copy for an operator.

Claims 18, 19, 22-25, 31, 32, 35-38, 44, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito (Japan, 6-230300) in view of Toyoda (Japan, 11-64759).

Saito discloses a unit having a light source 1 and optical element 2; element 4 reads on the instant invention's incident optical system; a polygon mirror 5 reads on the instant invention's optical deflector; elements 6 read on the instant invention's image optical system; and the surface 7 to be scanned as shown in Fig. 1 reads on the instant

invention's "scanned surface". The movement of the light source by (Fig. 1) in the directions A reads on the instant invention's "said laser unit is adapted to be moved in the main scanning direction without changing a direction of an axis of the incident optical system". Note abstract and Figure 1. The direction of the axis can be viewed as a vector whereas the vector has both a magnitude and direction. The direction of the axis of the incident optical system as view in Figure 1 do not change in direction as it moves in either directions A.

Saito differs from the instant invention by not showing the incident optical system arranged to direct the light beam to strike an optical deflector while maintaining a width of the light beam wider than the width of a deflecting surface of the optical deflector in a main scanning direction.

Toyoda discloses a light scanning optical device where a width of a luminous flux emitted from the lens 2 is formed so as to become wider than the width of deflection surface 4a of polygon mirror or optical deflector 4. This is done so that changes in the width of the luminous flux in accordance to the revolution of the optical deflector 4 can be minimized. Note abstract.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Saito with that of Toyoda so that changes of width of laser beam caused by the revolution of the optical deflector can be minimized as disclosed by Toyoda.

Claims 29/18, 30/18, 29/19, 30/19, 29/22, 30/22, 29/23, 30/23, 29/24, 30/24, 29/25, 30/25, 42/31, 43/31, 42/32, 43/32, 42/35, 43/35, 42/36, 43/36, 42/37, 43/37,

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42/38, and 43/38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito (Japan, 300) as modified by Toyoda (Japan, 759) as applied to claims 18, 19, 22-25, 31, 32, 35-38, 44, and 45 above, and further in view of Kashiwara (5,982,508).

Claims 29/18, 30/18, 29/19, 30/19, 29/22, 30/22, 29/23, 30/23, 29/24, 30/24, 29/25, and 30/25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito (Japan, 300) as modified by Toyoda (Japan, 759) as applied to claims 18, 19, 22-25, 44, and 45 above, and further in view of Kashiwara (5,982,508).

Saito, as modified by Toyoda, differ from the instant invention by not disclosing the image forming apparatus having a developing unit, a transfer unit, a fixing unit; and a controller for converting code data input from an external device into an image signal.

Kashiwara discloses a host computer 502 connected with a printer engine 100 by way of a video controller 200. The host computer 502 processes a document mixed with figures, pictures, characters, tables, and the like by running a document processing program. The processed document information is converted into print information written by a predetermined print language in order to be printed by a laser beam printer (LBP) 501 using a printer driver program. This print information contains character codes, vector information, picture information, and the like. The converted print information is sent via an interface signal line 503 to a LBP 501. The LBP 501 has a video controller 200 and a printer engine 100. The printer engine 100 performs a series of electrophotography processes including modulating a laser beam with the picture information sequentially supplied from the video controller 200, scanning the modulated

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laser beam on a photosensitive drum to form a latent image, the latent image is developed by developer 114 to create a toner image; the toner image is transferred onto a recording sheet 101 by a transfer charger 115; and the recording sheet 101 with the transferred toner image is fixed with fixing rollers 108 and 108'. Note column 5, line 54 – column 6, line 14; and column 7, lines 36-45.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to the apparatus of Saito in view of Toyoda with that of Kashiwara so that a latent image that is scanned onto the surface of element 15 can be produced onto a hard copy for an operator.

***Allowable Subject Matter***

Claims 20, 26-28, 29/20, 30/20, 29/26, 30/26, 29/27, 30/27, 29/28, 30/28, 33, 39-41, 42/33, 43/33, 42/39, 43/39, 42/40, 43/40, 42/41, and 43/41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1-16 are allowed over the prior art of record.

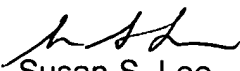
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan S. Lee whose telephone number is 571-272-2137. The examiner can normally be reached on Mon. - Fri., 10:30-8:00, Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Art Grimley can be reached on 571-272-2136 or 571-272-2800 (Ext. 52).

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The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Susan S. Lee  
Primary Examiner  
Art Unit 2852

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